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ABSTRACT

The case study, the use of ethnography, and phenomenological methods and techniques of research are introduced as approaches to qualitative research in the area of educational technology. Both ethnography and phenomenological research are interpretive and descriptive forms of research. The ethnographic investigation focuses on the social organization of a group to examine the cultural processes and perspectives of those within the culture. Meaning assigned to experience and behavior in a culture results from a complex mixture of objects, situations, and events. Phenomenological researchers believe that there are multiple ways of interpreting events for each person and that these interpretations are what constitute reality for each person. A case study provides a holistic description of an environment. Case studies may be written at different analytic levels and result in different products, depending on the research questions. Research questions may be vague at the beginning of a qualitative study, but they are refined in the study process. Qualitative research issues of population, data collection and analysis, and reporting results are explored. (Contains 11 references.) (SLD)

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Conducting Qualitative Research in Instructional Technology: Methods and Techniques

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Conducting Qualitative Research in Instructional Technology: Methods and Techniques

Various philosophical orientations to interpretive research are categorized under the umbrella term qualitative research. For example, ethnography, phenomenology, interpretive research, symbolic interactionism, and ecological psychology, to identify a few categories, are all orientations of qualitative research (Glesne & Peshkin, 1992). All forms of qualitative research share common characteristics and research methods. It is beyond the scope of this paper to discuss all categories of qualitative research. The focus of this paper is to initiate the novice researcher to the case study and the use of ethnography and phenomenological methods and techniques of research.

Ethnography

Both ethnographic and phenomenological research are interpretive / descriptive forms of research. At the center of ethnographic research is the concept of culture (Tesch, 1988). Goetz and LeCompte (1984) describe ethnography as "analytic descriptions or reconstruction's of intact cultural scenes and groups" (p.2). The ethnographic investigation focuses upon the social organization of a group in order to examine cultural processes and perspectives of those within the culture. The meaning people give within a culture to their experiences is not accidental to the ethnographer. Rather, the meaning assigned to experiences and behaviors displayed by those in a culture, are the results of a complex mixture among objects, situations, and events.

Applying ethnographic research to education necessitates recognizing educational settings as cultural entities. Social scientists believe that human behavior is significantly influenced by the environment in which it occurs. Ecological psychologists claim that if one ultimately wants to generalize research findings to the everyday world, then the research must be conducted in the environment in which the behavior occurs and everyday forces are recognized. As Wilson observes, " The inability of classical learning theories to say very much that is meaningful about everyday classroom learning can be explained in part by the absence of these school/organizational forces in the research laboratories where the theories were developed (Wilson, 1977, p. 248).

Ethnographic design requires investigative strategies which enable cultural reconstruction. Ethnographic strategies are empirical and naturalistic. Participant and non participant observation are used to obtain firsthand, sensory accounts of phenomena as they occur in natural settings. In addition, strategies are used to elicit phenomenological data, which represent the view of the participants being investigated. Characteristics of classical educational ethnography strategies include:

> ". . .the investigation of a small, relatively homogeneous and geographically bounded study site . . . long term and repeated residence of the researcher at the site . . . use of participant observation as the preferred data collection strategy, supplemented with a variety of ancillary techniques . . . a data base consisting primarily of field notes . . . and . . . a preoccupation and explanation of the culture, life ways, and social structure of the group under investigation. . . (Goetz and LeCompte, 1984, p. 17)".

Phenomenology

At the center of phenomenological research is the human experience of an occurrence. Phenomenology asks the question, what makes something what it is

(Van Maanen, 1990). Phenomenological researchers believe that there are multiple ways of interpreting events for each person, and that a person's interpretation is what constitutes reality for that person (Bogdan & Biklen, 1982). What distinguishes phenomenology from other qualitative research approaches is that the "subjective experience is at the center of the inquiry" (Tesch, 1988, p. 2).

The phenomenological research tradition relies on two assumptions: That the perceptions of the person being interviewed are valid; and that the experience and background of the researcher are sufficient to analyze the findings in a scholarly and responsible manner. Phenomenological researchers depend almost exclusively on in-depth interviews as their main investigative strategies, using observation only where verbalization is inadequate (Tesch, 1988).

Phenomenology does not rely on the "thick or rich" data that is generally associated with the ethnographic study. Instead, data are collected from the experiences of the participant and derive meaning, because of and in conjunction with, the background and experience of the researcher. Van Maanen (1990) connects the characteristics of thoughtfulness and love to the interview process. These characteristics enable the researcher to understand how the participant lived the experience that is being described. The researcher and the participant come to an understanding of the experience. Tesch (1988) describes the phenomenological interview as "dialogical reflection" rather than a set of questions and answers. Participants are encouraged to reiterate and express themselves in different ways, in an attempt to provide the researcher with an understanding of what constitutes the participants' reality of an event or interaction.

Case Study

There is little agreement as to the exact definition of a case study. Case studies provide a holistic description of an environment. They convey to the reader a sense of being there, or a vicarious experience. Lincoln and Guba (1985) propose that case studies may be composed for different purposes and written at different analytical levels. Their suggestions of categories for case studies and brief definitions of the categories are as follows: (1) chronicle (to record temporally); (2) render (to provide vicarious experience); (3) teach (as providing instructional materials); and (4) test (to test certain theories and hypotheses in a setting). However, it is recognized that any case may serve multiple purposes and fit under more than one category.

Depending on the purpose of the case study, Lincoln and Guba propose the study may be written at different analytical levels, and depending on purpose of the study, result in different products. The analytical levels they recognize include, " a merely factual level, an interpretative level, and an evaluative level (Lincoln and Guba 1985, p. 361)". Due to the evolving nature of a naturalistic study, they suggest that most naturalistic researchers will want to chronicle and render at the factual level, engage in interpretation for research and engage in evaluation for policy analysis.

Research Questions

The research questions in a qualitative study may be vague at the onset of the study. Performing a pilot study helps the researcher clarify the research questions. It provides an opportunity for the researcher to explore the setting, clarify questions and learn how to be a part of the setting (Glesne & Peshkin, 1992). Additionally, a thorough acquaintance with the related research and theory helps the researcher to focus the original research questions (Wilson, 1977).

Research objectives formulated from the research questions can help guide the data collection, however, the researcher remains free to explore new areas or

other areas as they arise out of the researchers observations. The qualitative researcher is always aware that new information may change the research questions or create a new question. Once in the setting it may become apparent that the initial research questions are insufficient or inappropriate, resulting in new questions and direction of the study.

Population

Purposeful selection best describes the selection of participants in a qualitative study. Participants are identified and selected by their behaviors and beliefs, as interpreted by the researcher, as to their relevance in exploring the research questions. It is impossible for the researcher to know, at the onset of the study, all of those who will eventually become participants in the study. Identification of participants evolves as does the study (Glesne & Peshkin, 1992; Lincoln & Guba, 1985).

Data Collection and Analysis

Rich data collected from the research setting provides an illuminating understanding of classroom events and generates additional ideas and questions concerning teachers and technology (Shoenfield & Verban,1988). The instrument for data collection in ethnography and phenomenological research is the human being. The goal of the researcher is to understand the research setting, the participants and their behavior. The researcher recognizes that it is not enough to simply be aware of the framework within which human behaviors occur, but, that there must be a systematic effort to develop an understanding of the context in which the behaviors occur.

Data collection techniques include interview, observation, document and record analysis, and nonverbal cues (Lincoln & Guba, 1985). The researcher makes calculated decisions as to what kind of data to collect and whether active probing rather than simple naturalistic observation should be used (Wilson, 1977). For example, the researcher may observe an interaction between two students and interpret the interaction based on previous observations and knowledge of the situation. Or, the researcher may not feel that a true interpretation of the event may be made without further probing and decides to interview the participants to gain a better understanding of the incident.

Handwritten field notes are a common method of recording the researcher's observations and serve to keep the researcher attentive. While other means of recording observations are available, such as the camcorder or tape recorder, the researcher must be aware of the potential of these devices to influence the research setting. Participants may not be as open to the researcher if they feel threatened by a permanent recording (Lincoln & Guba, 1985).

Field notes consist of detailed descriptions of the setting, events, and interactions of participants. They also provide a place to record the researcher's ideas, reflections and interpretations of the observed events. Notes written in the field may initially be only a few hastily written words to help the researcher remember exact descriptions, that will later be expanded; or they may be full detailed descriptions of the event (Glesne & Peshkin, 1992).

The format of field notes is dependent upon the individual preferences of the researcher. Some researchers prefer loose leaf notebooks or index cards to record observations. This enables the researcher to organize observations into categories as the study progresses rather than waiting until the end of data collection to begin categorizing. Other researcher prefer to record their observations in spiral notebooks and later transcribe them to computer files. Researchers follow various methods of coding and organizing their field notes. Coding may be according to

chronological order, such as historical information and events, or follow themes that have emerged during the collection process.

Documents provide additional sources of data for the researcher. Lincoln and Guba (1985), suggest the following reasons for the inclusion of documents as a data resource: (1) availability and low cost; (2) a stable source of information which can be analyzed and re analyzed; (3) they are contextually relevant and written in the natural language of the setting; (4) they are often statements that satisfy some accountability requirement; and (5) they are non reactive, unlike human respondents. However, they also caution that records can be in error, either intentionally or unintentionally.

Additional sources which have the potential to provide a rich source of data are informants and found pictures. Informants may play a variety of roles in the research setting and are invaluable to the researcher in a closed community. Their membership in the researched group who may allow them to direct the researcher to unexplored data resources, provide introductions to key members of the group, or even collaborate with the researcher throughout all phases of the study (Glesne & Peshkin, 1992).

Pictures, either still or motion, can provide in depth detail about a setting or event. However, care should be taken in interpreting the events depicted in a picture. Pictures found without accompanying dialogue may be misinterpreted. Additionally, photography and filming techniques can be used to cast an event in a particular mode.

The length of time in the field interacts with the conceptual perspective the researcher takes. For example, the process of time or what happened in the setting during a specific frame of time may be of specific interest to the researcher. In the school setting the period of time of a study may be a semester, school year, grading period, the length of a project (Smith, 1979). Observations of the setting should not be limited to one specific day of the week or time of day, during the study. They should be made at various times throughout the study in relation to events. For example, the activities in a school setting will not be the same on the day before a school holiday as the day before the administering of a national test.

Triangulation improves the probability that interpretations of data will be credible. This practice involves the incorporation of multiple data sources, methods, investigators and theoretical perspectives in the study (Glesne & Peshkin, 1992; Lincoln & Guba, 1985).

Data analysis is the researcher's attempt to derive meaning or information from the data collected. Data collection and data analysis performed simultaneously enables the researcher to focus and direct the study. Glesne and Peshkin (1992) emphasize that analysis is a continuing process, rather than a specific stage, that should commence as soon as the study begins.

There are various strategies for analyzing data. Most researchers find it useful to look for themes, strands, incidents and commonalties in the data as it is collected. Developing metaphors and analogies may help the researcher analyze the data. To equate a situation to another situation, may help the researcher develop an awareness that would not have been apparent otherwise (Bogdan & Biklen, 1982). For example, institutional relationships between various divisions at a southwestern university were compared to a marriage separation by Cashman (1992) and helped to provide the researcher with understanding in a complex situation.

Reporting Results

In writing the results it is important to consider all interactions between subjects, objects, environment, culture, and belief system. Additionally, prior experiences and theoretical orientation of the researcher should be addressed.

Van Maanen (1988) recognizes three different types of styles or tales as forms of reporting ethnographic research: realist, confessional, and impressionist. The first style is the realist tale, in which the author takes an omnipotent view. In this style the author is concerned with the minute details of the participants' lives. These details are presented in an authoritarian style that seems to declare the authors' viewpoint as the reality.

The second style, is the confessional tale in which the author is present throughout the text. In the confessional tale authors recognize themselves as human beings who are prone to mistakes, but eventually arrive at a new understanding.

The third style, is the impressionist tale which makes use of dramatic recall in which the reader experiences vicariously the experiences of the researcher in the field. Rather than events being interpreted by the researcher, the readers derive their own interpretations. Impressionist tales, according to Van Maanen, "are not about what usually happens but about what rarely happens. These are the tales that presumably mark and make memorable the fieldwork experience" (Van Maanen 1988, p. 102).

Even though these styles of reporting are derived from ethnographic writing, they are styles that can be utilized in various areas of qualitative writing. It is the decision of the researcher to decide which reporting style or combination of styles will best represent the study. Additionally, it is recognized that qualitative reporting is not constrained by rules of style, but, is enhanced by the freedom allowed the researcher to determine the best format of reporting.

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